

Development of an Android smartphone application for surveillance systems employing Cisco video cameras

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Applications of the video camera based surveillance have been growing out from the security business to the daily and personal life equipped with cheaper and highly efficient devices. The traditional camera surveillance conducted by professionals in a dedicated control room is also moving to the layman's business without the space limitation. Accordingly, it is becoming more and more important to make surveillance applications mobile without compromising security or reliability traditionally accorded by such equipment.

In this paper, the design, implementation, and evaluation of a mobile video surveillance software application based on Google's open source Android operating system for mobile devices is presented. The objective of the project is to build an easy-to-use application that is capable of viewing one or more real-time cameras, while being on the move. It provides five innovative contributions.

1. Android's wireless network connection is configured automatically.
2. The camera devices are discovered autonomously by this app without knowing anything about present devices.
3. Cameras are placed on a virtual map of a room to allow users to get an idea about the location of these cameras.
4. The device configuration is automatic and only credentials need to be supplied.
5. The practical results show that the accessibility speed is improved compared to known viewing methods.

A prototype application using Cisco video cameras was developed for the Google Nexus One smart-phone.